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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,880	07/16/2003	Kazuhisa Senda	121036-055	9102

35684 7590 10/21/2004

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EXAMINER

MITCHELL, KATHERINE W

ART UNIT PAPER NUMBER

3677

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,880

Applicant(s)

SENDA ET AL.

Examiner

Katherine W Mitchell

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant is correct that the Preliminary Amendment eliminated the restriction requirement. The preliminary amendment filed 7/16/03 is being used in the examination of this application.

Information Disclosure Statement

2. The IDS is presently unavailable to examiner. It will be reviewed as soon as it becomes available. If any citation on the IDS is used in a rejection of a pending claim, not due to amendment, such office action will be non-final.

Specification

3. The abstract of the disclosure is objected to because it does not describe the pending invention. The parent case claimed the inverted T-type stepped wall cross section shaped gasket; however, this divisional application has no claims regarding this feature. Applicant is correct in filing the exact same specification, including abstract, for a divisional application, but at this point the abstract should be amended to reflect the pending claims. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 6-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

Art Unit: 3677

which applicant regards as the invention. The claims disclose a hardness value with no units. Values without units are vague and ambiguous.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 21 and 2-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsurutani et al USP 6284403, hereafter called US403 in view of Kuse Katsuro JP 10-95071, hereafter called JP95071.

Re claims 21 and 3-5 and 8-9: US403 teaches a gasket for sealing fluids of a fuel cell. Fig 7 shows the mold, and col 7 lines 19-44 teach the method of producing the gasket in more detail, including providing a mold, providing a resin film (53) in the mold and molding a gasket body (51) on said resin film. Col 7 lines 33-36 teach that the film and gasket layer are joined by adhesive, heat welding, or the injection molding process itself. Batteries inevitably have an electrolyte solution which would contact the gasket, as also described in col 8 lines 31-41. However, US403 does not disclose that the rubber layer comprise an addition reaction type silicone rubber. JP95071 teaches that silicone rubber has outstanding heat resistance and cushioning properties in paragraph [0002], and paragraphs [0008-0010] teach an additive type silicone rubber. Excellent cushioning properties inevitably provide excellent compressibility for gaskets.

Art Unit: 3677

JP95071 also teaches in paragraphs [0038-0040] the importance of the adhesive and film with the silicone rubber. Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of US403 and JP95071 before him at the time the invention was made, to modify US403 as taught by JP95071 to include using an additive silicone rubber as the rubber component of the gasket as taught by JP95071, in order to obtain a heat resistant and compressible, flexible gasket that thus provides excellent sealing properties when combined with a resin film for strength. One would have been motivated to make such a combination because a gasket with high strength, good heat resistance, excellent resilience and compressibility, and relatively low cost would have been obtained, as taught/suggested by JP95071.

Further Re claims 2-5: Paragraph [0010] specifies the viscosity of the silicone rubber, and the fact that it can be formed in a mold requires it to be a liquid or paste. Paragraph [0044] teaches a polyester film .038 mm, or 38 micrometers thick and paragraph [0051] teaches film 35 micrometers thick.

8. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US403 in view of JP95071 as applied above and further in view of Oshima et al USP 5704803, hereafter called US 803. As discussed above, US403 in view of JP95071 teach all the elements except the desired rubber hardness. US803 teaches in col 3 lines 56-60 that silicone rubber with a Shore A hardness of 10-70 is used as a battery gasket. Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of US403 and JP95071 as applied to claim 3 above and US803 before him at the time the invention was

Art Unit: 3677

made, to modify US403 and JP95071 as applied to claim 3 to further include a Shore A hardness under 70 as taught by US803, in order to obtain compressible, flexible gasket that thus provides excellent sealing properties when combined with a resin film for strength. One would have been motivated to make such a combination because a lower hardness numbers indicate higher compressibility and better sealing.

9. Claims 21 and 2-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsurutani et al USP 6284403, hereafter called US403 in view of Hiroshi JP 8-148391, hereafter called JP148391.

Re claims 21 and 2-5 and 8-9: US403 teaches a gasket for sealing fluids of a fuel cell. Fig 7 shows the mold, and col 7 lines 19-44 teach the method of producing the gasket in more detail, including providing a mold, providing a resin film (53) in the mold and molding a gasket body (51) on said resin film. Col 7 lines 33-36 teach that the film and gasket layer are joined by adhesive, heat welding, or the injection molding process itself. Batteries inevitably have an electrolyte solution which would contact the gasket, as also described in col 8 lines 31-41. However, US403 does not disclose that the rubber layer comprise an addition reaction type silicone rubber. JP148391 teaches that silicone rubber has outstanding heat resistance and cushioning properties in paragraph [0038-0039], which teach an additive type silicone rubber for improved adhesion. Excellent cushioning properties inevitably provide excellent compressibility for gaskets. JP148391 also teaches in paragraphs [0038-0039] the importance of a nylon film and adherence of the silicone rubber to the nylon film. Therefore, it

Art Unit: 3677

would have been obvious to one of ordinary skill in the art, having the teachings of US403 and JP148391 before him at the time the invention was made, to modify US403 as taught by JP148391 to include using an additive silicone rubber as the rubber component of the gasket as taught by JP148391, in order to obtain a heat resistant and compressible, flexible gasket that thus provides excellent sealing properties when combined with a resin film for strength. One would have been motivated to make such a combination because a gasket with high strength, good heat resistance, excellent resilience and compressibility, and relatively low cost would have been obtained, as taught/suggested by JP148391.

Further Re claims 2-5: JP148391 teaches a film thickness of preferably 10-80 micrometers in [0020]. Since the silicone rubber is molded and mixed with peroxide, it is inevitably a liquid or paste.

10. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US403 in view of JP148391 as applied above and further in view of Oshima et al USP 5704803, hereafter called US 803. As discussed above, US403 in view of JP148391 teach all the elements except the desired rubber hardness. US803 teaches in col 3 lines 56-60 that silicone rubber with a Shore A hardness of 10-70 is used as a battery gasket. Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of US403 and JP148391 as applied to claim 3 above and US803 before him at the time the invention was made, to modify US403 and JP148391 as applied to claim 3 to further include a Shore A hardness under 70 as taught by US803, in order to obtain compressible, flexible gasket that thus provides excellent sealing properties when combined

Art Unit: 3677

with a resin film for strength. One would have been motivated to make such a combination because a lower hardness numbers indicate higher compressibility and better sealing.


Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

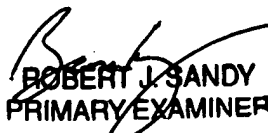
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W Mitchell whose telephone number is 703-305-6713. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Katherine W Mitchell
Patent Examiner
Art Unit 3677

Kwm
10/17/2004


ROBERT J. SANDY
PRIMARY EXAMINER